

# CITY OF LOS ANGELES

CALIFORNIA



ERIC GARCETTI  
MAYOR

## BOARD OF PUBLIC WORKS MEMBERS

—  
KEVIN JAMES  
PRESIDENT

MONICA RODRIGUEZ  
VICE PRESIDENT

MATT SZABO  
PRESIDENT PRO TEMPORE

MICHAEL R. DAVIS  
COMMISSIONER

BARBARA ROMERO  
COMMISSIONER

## BUREAU OF SANITATION

—  
ENRIQUE C. ZALDIVAR  
DIRECTOR

TRACI J. MINAMIDE  
CHIEF OPERATING OFFICER

VAROUJ S. ABKIAN  
ADEL H. HAGEKHALIL  
ALEXANDER E. HELOU  
ASSISTANT DIRECTORS

—  
NEIL M. GUGLIELMO  
CHIEF FINANCIAL OFFICER

1149 SOUTH BROADWAY, 9<sup>TH</sup> FLOOR  
LOS ANGELES, CA 90015  
TEL: (213) 485-2210  
FAX: (213) 485-2979  
WWW.LACITYSAN.ORG

November 14, 2013

Via Email: [losangeles@waterboards.ca.gov](mailto:losangeles@waterboards.ca.gov)

Sam Unger  
California Regional Water Quality Control Board  
Los Angeles Region  
320 West 4<sup>th</sup> Street  
Los Angeles, CA 90013

ATTN: Mr. Man Voong, TMDL Unit

Dear Mr. Unger:

### **TECHNICAL COMMENTS ON THE DRAFT BALLONA CREEK ESTUARY TOXIC POLLUTANTS TMDL**

The City of Los Angeles, Bureau of Sanitation (Bureau) appreciates the opportunity to provide technical comments on the proposed amendment to the Water Quality Control Plan for the Los Angeles Region (Basin Plan) to revise the Total Maximum Daily Load (TMDL) for Ballona Creek Estuary Toxic Pollutants (Toxics TMDL). The Bureau is providing the following comment letter to highlight a few key technical issues. Additional detailed technical comments are also provided in the associated attachment.

### **SUMMARY OF KEY TECHNICAL ISSUES**

- Revisions to the Toxics TMDL based on the findings of the *Toxicity Identification Evaluation of Sediment (Sediment TIE) in Ballona Creek Estuary Final Report* are greatly appreciated; however, it seems appropriate to revise the Basin Plan Amendment (BPA) and Draft Staff Report to acknowledge the findings of the Sediment TIE report.
- The loading capacity and waste load allocations (WLAs) should also be expressed in terms of discharged loads, not solely settleable loads, to support BMP selection and evaluation of attainment based on data collected by Permittees.
- The percent reduction interim compliance milestones should relate to “baseline” conditions rather than “current” conditions.



Mr. Sam Unger

Technical Comments on the Draft Ballona Creek Estuary Toxics Pollutants TMDL

November 14, 2013

Page 2

- Additional compliance language should be included for consistency and to provide a mechanism allowing the results of a TIE analysis or Stressor ID Study to demonstrate compliance for an individual constituent.
- Indirect effects targets, loading capacities, and WLAs should not be included for constituents without an impairment.
- A TMDL Reopener should be added prior to the final compliance date to reconsider the TMDL based on the finding of relevant State policies and scientific studies.
- The compliance schedule for PCBs should be revised based upon the significant reduction in the total PCBs WLA.
- The inclusion of sediment targets and allocations based on fish tissue end points fundamentally changes the TMDL from an direct effects TMDL to an indirect effects TMDL, without an appropriate opportunity to complete appropriate scientific studies and stakeholder processes.

This letter incorporates by reference Attachment 1, which provides additional Bureau technical comments, proposed revisions, and further details on the above and other issues.

The Bureau has the following specific technical comments related to the summary of key issues above:

**1. Revisions to the Toxics TMDL Based on the findings of the *Toxicity Identification Evaluation of Sediment (Sediment TIE) in Ballona Creek Estuary Final Report* are greatly appreciated**

The Bureau greatly appreciates the revisions to the Toxics TMDL based on the findings of the *Toxicity Identification Evaluation of Sediment (Sediment TIE) in Ballona Creek Estuary Final Report*. The Bureau's Watershed Protection Division (WPD) and Environmental Monitoring Division (EMD), in conjunction with the Southern California Coastal Water Research Project (SCCWRP), conducted a three year study (Toxicity Identification Evaluation (TIE)) funded by the Responsible Parties to determine the current extent of chemical contamination within the Ballona Creek Estuary and to determine likely causes of toxicity. The TIE Study was conducted consistent with the State's Sediment Quality Objectives (SQOs) for toxic pollutants (Phase I SQOs) Stressor Identification Process. The TIE Study found that historical organic pollutants (total DDT, total PCBs, chlordane, and total PAHs) were not causing toxicity in the Ballona Creek Estuary.

***Requested Actions: In the Problem Statement, note that the TIE Study found that historical organic pollutants (total DDT, total PCBs, chlordane, and total PAHs) were not causing toxicity in the Ballona Creek Estuary.***

**2. The Loading Capacity and WLAs should also be expressed in terms of discharged loads, not solely settleable loads, to support BMP selection and evaluation of attainment.**

As discussed in the 2005 BC Toxics TMDL Staff Report, the mass-based allocations are based on the sediments *deposited in the estuary* rather than what is *discharged from the watershed*. However, MS4 Permittees must address what they discharge from the watershed and cannot affect other sources of pollutants that may be deposited in the estuary. Including discharge based WLAs, instead of or in addition to deposition based WLAs, would be extremely helpful for the purposes of implementation planning, evaluating individual jurisdiction's contributions to loading, and ultimately determining compliance using data collected from MS4 discharges: MS4s will be monitoring at the outfalls to determine how much of these pollutants are discharged. If the mass **discharged** from MS4s was compared to the current WLAs based on what **settles**, Permittees could be out of compliance with the water quality based effluent limits (WQBELs) in the MS4 permit while still meeting the assumptions of the WLAs and goals of the TMDL. For implementation planning, modeling tools are heavily relied upon, were used for the development of the implementation plans for the Toxics TMDL, and will be used for the forthcoming Enhanced Watershed Management Program. These tools help select BMPs by estimating the reduction in the load of pollutants in the MS4 discharges rather than what is settled based on various combinations of BMPs.

The 2005 BC Toxics TMDL Staff Report estimated the average annual total sediment discharged as 44,615 m<sup>3</sup>/year and the average annual fine sediment deposited as 5,004 m<sup>3</sup>/year. Given this information, the percentage of the total discharged sediment that is ultimately deposited as fine sediment is 11.2%. As previously stated, including discharge based WLAs, instead of, or in addition to, deposition based WLAs, would be extremely helpful and appropriate. Discharge based WLAs may be calculated by dividing the currently used loading capacity and WLAs, which are based on the fine sediment that settles, by the percentage of the total discharged sediment that is ultimately deposited as fine sediment, 11.2%.

If the discharge based WLAs are not included in the TMDL, language should be included in the BPA and Staff Report clearly indicating that the WLAs apply to what settles on the bed sediment and does not directly correspond to an allowable effluent loading.

***Requested Actions: Incorporate strikeout-underline language and tables found in comment #5 of Attachment 1 into the Loading Capacity, Load Allocations, and Waste Load Allocations sections of the BPA. Additionally, if the discharge based WLAs are not included in the TMDL, incorporate strikeout-underline language found in comment #5 of Attachment 1 into the Implementation section of the BPA and the BPA Implementation Schedule (Table 7-14.2) clearly indicating that the WLAs apply to what settles on the bed sediment and does not directly correspond to an allowable effluent loading for consistency with the MS4 Permit.***

**3. THE PERCENT REDUCTION INTERIM COMPLIANCE MILESTONES SHOULD RELATE TO “BASELINE” CONDITIONS RATHER THAN “CURRENT” CONDITIONS.**

The Bureau appreciates the inclusion of an approach that allows for compliance with interim allocations to be based on load reduction in addition to the percent area approach. The addition of this approach is important as the purpose of the TMDL is to reduce the loading of toxics to the Estuary, and BMPs are selected and located within the watershed based on their efficiency and effectiveness at reducing pollutant loadings. However, it is requested that the term “current loading” be replaced with “baseline loading”. This would help to avoid confusion on the intent of the revision. The goal is to reduce loadings from the “baseline” that existed when the impairment was identified to meet the TMDL targets and attain the beneficial uses. The requested change would need to be made throughout the BPA and Staff Report.

*Requested Action: Replace the term “current loading” with “baseline loading” throughout the TMDL BPA and Staff Report and include the calculated “baseline loadings” presented in comment #7 of Attachment 1.*

**4. Additional compliance language should be included for consistency and to provide a mechanism allowing the results of a TIE analysis or Stressor ID Study to demonstrate compliance for an individual constituent.**

Results of TIE Analysis or Stressor ID Study Compliance Language for Metals

Addition of the multiple methods for demonstrating compliance is appreciated. Additionally a mechanism allowing the results of a TIE analysis or Stressor ID Study to demonstrate compliance for an individual constituent should be included. The 2008 TIE Study found that the historical organics were not contributing to toxicity and related targets for direct effects have been removed. The TIE Study also indicated that trace metals were most likely not causing sediment toxicity; however, several tests were inconclusive. Additional research is necessary and these direct effects targets and associated allocations are retained. If in the future it is determined that an individual constituent is not causing or contributing to toxicity at levels above the TMDL target, this additional compliance method provides the only mechanism to demonstrate compliance. The concern is that an individual pollutant could be found to not be causing toxicity, but toxicity is occurring due to a different constituent with a separately enforceable permit limit. Without this mechanism, the Permittees would be subject to enforcement for exceedances of multiple constituents when one is not causing toxicity.

Consistency of BPA Implementation Schedule with Implementation Section of the BPA

The compliance demonstration methods for the direct effects and indirect effects interim dates of January 11, 2013, 2016, and 2017 and final WLAs should include all of the compliance related language on page 9 of the BPA for consistency.

**Requested Action:** *Incorporate strikeout-underline language found in comments #6, #13, #14, and #15 of Attachment 1 into the Implementation section of the BPA and the BPA Implementation Schedule (Table 7-14.2).*

**5. Indirect effects targets, loading capacities, and WLAs should not be included for constituents without an identifiable impairment.**

During the development of the 2005 Toxics TMDL, an impairment for bioaccumulatives in fish tissue was not found and, as a result, fish tissue targets and allocations were not included. Subsequent to TMDL adoption, Regional Board staff recommended removing the DDT, chlordane, and PCBs listings for fish tissue. The fish and mussel tissue data that have been collected in the Ballona Creek Estuary since TMDL adoption are shown in **Table 1** and **Table 2**. As indicated in **Table 1**, available fish tissue data that have been collected since the adoption of the 2005 Toxics TMDL do not demonstrate an impairment when compared to the Fish Contaminant Goals (FCGs) (used as proposed targets in the TMDL) and Advisory Tissue Levels (ATLs) listed in *Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene*. It should be noted that page 23 of the Draft Staff Report is incorrect in stating that “only three fish have been collected (in 2012).” There were composite samples for each of the three different fish species. The speckled sanddab composite consisted of tissue from nine individuals, the spotted turbot composite consisted of tissue from three individuals, and the staghorn sculpin composite consisted of fish tissue from ten individuals. In addition, as shown in **Table 2**, available mussel tissue data collected since the adoption of the 2005 Toxics TMDL also do not demonstrate an impairment when compared to the FCGs and ATLs.

**Table 1. Comparison of Fish Contaminant Goals and Advisory Tissue Levels with Ballona Creek Estuary 2012 Fish Tissue Sampling Event Results (ppb wet weight)**

Constituent	Fish Contaminant Goal <sup>1</sup>	Sample 1 (Speckled Sanddab)	Sample 2 (Spotted Turbot)	Sample 3 (Staghorn Sculpin)	Advisory Tissue Level <sup>1</sup>
Chlordane	5.6	0 <sup>2</sup>	0 <sup>2</sup>	0 <sup>2</sup>	280
Total DDTs	21	0 <sup>2</sup>	0 <sup>2</sup>	0 <sup>2</sup>	1000
Total PCBs	3.6	0 <sup>2</sup>	0 <sup>2</sup>	0 <sup>2</sup>	42

<sup>1</sup> Based upon one 8-ounce serving per week (32 g/day).

<sup>2</sup> Individual isomers, congeners, or compounds were below the detection limit.

**Table 2. Comparison of Fish Contaminant Goals and Advisory Tissue Levels with Ballona Creek Estuary 2009-2012 Composite Mussel Tissue Results (ppb wet weight)**

Constituent	Fish Contaminant Goal <sup>1</sup>	BCE-2 2009	BCE-2 2010	BCE-2 2011	BCE-4 2009	BCE-4 2010	Advisory Tissue Level <sup>1</sup>
Chlordane	5.6	0	0	0	0	0	280
Total DDTs	21	6.5	10.6	18.5	3.5	8.7	1000
Total PCBs	3.6	3 <sup>2</sup>	0	0	0 <sup>2</sup>	0	42

<sup>1</sup> Based upon one 8-ounce serving per week (32 g/day).

<sup>2</sup> Total PCB congeners.

Additionally, although the TMDL Reconsideration Staff Report references an OEHHA advisory, the OEHHA Fish Consumption Guidelines Report<sup>1</sup> clearly states, “Concentrations of chlordane and dieldrin were below levels of concern (see Klasing and Brodberg, 2008) and will not be addressed in this report.”<sup>2</sup> As such, fish consumption guidelines have **not** been instituted for southern California waters including Ballona Creek Estuary for chlordane.

These conclusions are consistent with the TMDL Reconsideration Staff Report, which does not indicate that fish tissue data demonstrate an impairment. Rather, the reasoning for inclusion of fish tissue and associated sediment targets is based on interpretation of a narrative objective as follows:

“The State’s Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality (EB&E Plan Part 1), which was adopted in 2009 after the original establishment of the toxics TMDL, includes (1) a narrative objective to protect benthic communities along with an evaluation approach based on integrating multiple lines of evidence (the — “triad” approach) to determine whether this objective is achieved, and (2) a narrative objective to protect the human health beneficial use. Therefore, it is necessary to include fish tissue targets and associated sediment targets for the bioaccumulatives **to protect the human health beneficial use and ensure that the narrative objective for indirect effects contained in the State’s EB&E Plan is achieved.**”

The draft Amendments to the EB&E Plan Part 1 (Section IV.B) referenced in the TMDL Reconsideration Staff Report presents the following narrative objective for indirect effects to protect human health:

“Pollutants shall not be present in sediments at levels that will bioaccumulate in aquatic life to levels that are harmful to human health in bays and estuaries of California. **This narrative objective shall be implemented as described in Section VI.A of Part 1.**”

<sup>1</sup> *Health Advisory and Safe Eating Guidelines for Fish from Coastal Areas of Southern California: Ventura Harbor to San Mateo Point June 2009.* OEHHA, State of California.

<sup>2</sup> Klasing, S.; Brodberg, R. 2008. Development of Fish Contaminant Goals and Advisory Tissue Levels for common contaminants in California sport fish: Chlordane, DDTs, dieldrin, methylmercury, PCBs, selenium, and toxaphene. Office of Environmental Health Hazard Assessment, California Environmental Protection Agency.

Mr. Sam Unger

Technical Comments on the Draft Ballona Creek Estuary Toxics Pollutants TMDL

November 14, 2013

Page 7

The draft Amendments to the EB&E Plan Part 1 (Section VI.A) provides the following guidance on implementing the narrative objective:

**“The narrative human health objective in Section IV. B. of this Part 1 shall be implemented on a case-by-case basis, based upon a human health risk assessment.”**

As a result, if the results of a human health risk assessment show that the narrative objectives for indirect effects are not being achieved, it may be necessary to include fish tissue targets and associated sediment targets for the bioaccumulatives to protect human health and ensure that the narrative objective for indirect effects contained in the State's EB&E Plan is achieved. On the other hand, if the results of a human health risk assessment show that the narrative objectives for indirect effects are being achieved or if a human health risk assessment is not performed, it is not necessary to include fish tissue targets and associated sediment targets for the bioaccumulatives. Given that the results of a human health risk assessment were not presented in the TMDL Reconsideration Staff Report, it does not appear that a health risk assessment has been conducted.

To evaluate the potential human health risk associated with sediments in the Estuary, a tool currently being considered by State Water Board staff as part of the Draft EB&E Plan Part 2 implementation process was utilized to consider site-specific conditions which were not considered in the sediment targets proposed in the BPA (the proposed targets were developed for other waterbodies based on the site-specific conditions of those waterbodies, not Ballona Creek Estuary). The tool currently being considered by State Water Board staff to be included as part of the Draft EB&E Plan Part 2 implementation process is the Human Health SQO Decision Support Tool (DST). The DST is an Excel workbook that performs the Tier II SQO site assessment referenced in the *Staff CEQA Scoping Informational Document: Phase II Sediment Quality Objectives for Enclosed Bays and Estuaries of California*. The purpose of the Tier II SQO site assessment is to determine if site sediments meet the sediment quality objective described in Section IV.B that protects human consumers of resident seafood from bioaccumulative contaminants in sediment. The Tier II SQO site assessment consists of an evaluation of both tissue data and sediment data to determine the potential hazard to human health, using available site-specific information. Consumption risk is evaluated for both cancer and non-cancer effects. Evaluation of sediment linkage utilizes a mechanistic food web model to estimate tissue concentrations derived from measured sediment concentrations. Although the DST has not yet been approved, it provides an initial evaluation of the risk and provides an overview of the general thought process that demonstrates the path that State Water Board staff are considering.

The results obtained when using the DST with data collected from the Ballona Creek Estuary indicate the absence of an impairment for chlordane, total DDT, and total PCBs. The overall site assessment category is determined using the decision matrix presented in **Table 3**. Site sediments categorized as unimpacted or likely unimpacted meet the sediment quality objective protecting human consumers for the specific contaminant evaluated. Site sediments categorized as possibly impacted, likely impacted, or clearly impacted do not meet the sediment quality

objective. As required, this evaluation has been performed separately for chlordane, total DDT, and total PCBs. In each case, the result for the consumption risk is categorized as **very low**. Thus, as indicated by the decision matrix in **Table 3**, the overall site assessment category is **unimpacted** for each constituent. This suggests that, based on site-specific data, sediment concentrations do not appear to be posing a risk to human health. This is contrary to the determination made in the TMDL amendment, which uses targets that were developed for other waterbodies rather than Ballona Creek site-specific data.

**Table 3. Tier II SQO Site Assessment Categories**

		Consumption Risk			
		Very Low	Low	Moderate	High
Site Sediment Contribution	Very Low	Unimpacted	Unimpacted	Likely Unimpacted	Likely Unimpacted
	Low	Unimpacted	Unimpacted	Possibly Impacted	Possibly Impacted
	Moderate	Unimpacted	Likely Unimpacted	Likely Impacted	Likely Impacted
	High	Unimpacted	Likely Unimpacted	Clearly Impacted	Clearly Impacted

Adoption of the currently proposed targets **will result in MS4 allocations that will be incorporated as effluent limits even though there is no identified impairment in fish tissue, and site-specific analysis does not suggest sediment are causing an impairment**. Removal of the currently proposed sediment targets for indirect effects is appropriate. Monitoring requirements currently stipulated in the Draft Revised TMDL can be maintained so that data will still be collected to ensure that the narrative objective for indirect effects contained in the State's EB&E Plan continues to be achieved. If the sediment targets for indirect effects and fish tissue are not removed, resources will be focused on the implementation of BMPs aimed at addressing constituents which do not appear to be causing or contributing to an impairment and, as a possible worst case scenario, the responsible parties may be forced to dredge the Estuary.

The following provides a summary of the key points presented in the previous discussion:

1. Available fish tissue and mussel data do not demonstrate an impairment;
2. Sediment targets for indirect effects and fish tissue were included to protect the human health beneficial use and ensure that the narrative objective for indirect effects contained in the State's EB&E Plan is achieved;
3. The narrative objective contained in the State's EB&E Plan clearly states that it should be implemented on a case-by-case basis, based upon a human health risk assessment;
4. A human health risk assessment was not provided in the TMDL Reconsideration Staff Report to demonstrate the need for sediment targets for indirect effects and fish tissue;
5. A human health risk assessment tool currently being considered by State Water Board staff indicates that the sediment quality objective protecting human consumers is met for chlordane, total DDTs, and total PCBs;

6. Chlordane, total DDTs, and total PCBs will continue to be monitored to ensure that the narrative objective for indirect effects contained in the State's EB&E Plan continues to be achieved; and
7. Resources could be inappropriately diverted to BMPs and possibly dredging the Estuary even though site-specific data does not suggest an impairment.

***Requested Action: Remove the sediment targets, loading capacities, and WLAs for indirect effects and fish tissue. Maintain monitoring and reconsider the TMDL after the adoption of new State policies utilizing site-specific data. At a minimum, if sediment targets for indirect effects and fish tissue are still included despite the absence of an identifiable impairment, it seems appropriate to note that an impairment in fish tissue has not been identified in the Problem Statement.***

- 6. TMDL Reopener should be added prior to the final compliance date to reconsider the TMDL based on the finding of relevant State policies and scientific studies.**

As recognized in the 2005 Toxics TMDL and the BPA for the Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxics Pollutants TMDLs (Harbor Toxics TMDLs), it may be necessary to make adjustments to the TMDL to be responsive to new State policies including, but not limited to, SQO Part II and the toxicity policy. Additionally, BC stakeholders may conduct additional special studies, such as further investigation of the role of metals in toxicity in bed sediment, and the Responsible Parties to the Harbor Toxics TMDLs are currently conducting studies which may provide findings applicable to the BC Toxics TMDL. A number of these efforts are expected to be completed within the next few years and this TMDL would benefit from the guidance that these studies and State policies will provide.

***Requested Action: Incorporate strikeout-underline language found in comment #11 of Attachment 1 into the Monitoring section of the BPA and the BPA Implementation Schedule (Table 7-14.2).***

- 7. The compliance schedule for PCBs should be revised based upon the significant reduction in the total PCBs WLA.**

Notwithstanding the previous comment that indirect effects targets for total PCBs should be removed, the following comment relates to the compliance language for the indirect effects interim dates of January 11, 2013, 2016, and 2017 and the final date of January 11, 2021. Given that the total PCBs WLA for MS4 Permittees went from 152 g/yr to 21.40 g/yr, which is an 86% reduction in the WLA, additional BMPs will need to be implemented that had not been accounted for during the development of the original TMDL and the Toxics TMDL Implementation Plans developed by the Cities and County. While the Cities and County have improved discharge quality and a reduction in total PCBs in Estuary sediments have been observed, additional time is needed to meet the new and significantly lower WLA. As a result,

the implementation period to comply with the interim and final milestones for total PCBs should be extended.

***Requested Action: Modify the BC Toxics TMDL Implementation Schedule to include the interim and final compliance dates as shown in Table 4.***

**Table 4. Requested Interim and Final Compliance Dates for Sediment WLAs for Chlordane, Total DDT, and Total PCBs**

Date	% of the Total Drainage Area Required to Meet WLAs or % Reduction in the Difference Between Baseline Loadings and WLAs		
	Chlordane	Total DDT	Total PCBs
January 11, 2013	25	25	--
January 11, 2016	50	50	--
January 11, 2017	75	75	25
January 11, 2021	100	100	50
January 11, 2025	100	100	100

- 8. The inclusion of sediment targets and allocations based on fish tissue end points fundamentally changes the TMDL from an direct effects TMDL to an indirect effects TMDL, without an appropriate opportunity to complete appropriate scientific studies and stakeholder processes.**

Notwithstanding the previous comments discussed in detail previously and those included in Attachment 1, the Bureau would like to comment on the process that was used during the reconsideration of the Toxics TMDL. The incorporation of indirect effects targets, loading capacities, and WLAs into the Toxics TMDL has created an entirely new TMDL because, not only were the values of the numeric targets, loading capacities, and WLAs changed (which is typical for TMDL reconsiderations), but the key matrix being protected was changed from sediment to fish tissue (which is not typical for TMDL reconsiderations). During the development of the new indirect effects TMDL, the Bureau was not given the opportunity to provide input on any aspect of the new indirect effects TMDL. As a result, the Bureau was not given sufficient time to research and propose alternatives which may benefit all stakeholders for many aspects of the new TMDL.

The Bureau submitted a *Ballona Creek Estuary Toxics Total Maximum Daily Load Reopener Support Report* to Regional Board staff in October 2012. Within the 2012 report, the Bureau provided input regarding the aspects of the 2005 Toxics TMDL which were expected to be reconsidered. The Bureau's staff met with Regional Board staff twice (in 2012 and early 2013), but did not receive any feedback on the input that the Bureau provided despite several attempts to seek Regional Board staff feedback. On the contrary, the Bureau was told by Regional Board staff that the Toxics TMDL would not be reconsidered in 2013. It was not until one week prior to the release of the draft revisions to the TMDL that the Bureau was informed that the Toxics TMDL would be reconsidered in 2013, and not until the draft Tentative BPA was released that the Bureau found out that the Toxics TMDL would address indirect effects.

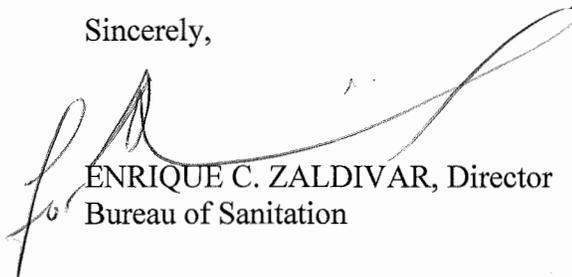
Mr. Sam Unger  
Technical Comments on the Draft Ballona Creek Estuary Toxics Pollutants TMDL  
November 14, 2013  
Page 11

***Requested Actions: Remove all aspects of the Toxics TMDL related to indirect effects, and if necessary, create a separate indirect effects TMDL developed in cooperation with all interested stakeholders.***

The Bureau is committed to improving and protecting the local environment as evidenced by the leadership role the City has taken in implementing TMDLs, and in proactively implementing clean water projects, such as the Echo Park Lake Ecosystem Rehabilitation Project which was initiated prior to a TMDL, via the voter approved Proposition O ballot measure. These investments in the future are done in partnership with your agency to achieve maximum return in local environmental programs and infrastructure.

Thank you for your consideration of these technical comments. If there any questions, please feel free to call Donna Toy-Chen at (213) 485-7954.

Sincerely,



ENRIQUE C. ZALDIVAR, Director  
Bureau of Sanitation

ECZ:SK:DC:SM  
WPDCR9074

Attachments:

Attachment 1 – Detailed Technical Comments Matrix on Revised Ballona Creek Estuary Toxic Pollutants TMDL

cc: Sam Unger, California Regional Water Quality Control Board – Los Angeles Region  
Deborah J. Smith, California Regional Water Quality Control Board – Los Angeles Region  
Renee Purdy, California Regional Water Quality Control Board – Los Angeles Region  
Traci Minamide, Bureau of Sanitation/EXEC  
Adel Hagekhalil, Bureau of Sanitation/EXEC  
Shahram Kharaghani, Bureau of Sanitation/WPD  
Donna Chen, Bureau of Sanitation/WPD  
Mas Dojiri, Bureau of Sanitation/EMD  
Omar Moghaddam, Bureau of Sanitation/RAD  
Shokoufe Marashi, Bureau of Sanitation/WPD  
Charlie Yu, Bureau of Sanitation/WPD

## Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions Technical Comment Matrix

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
1	BPA, Problem Statement, Pg. 2	Additional information regarding the results of the TIE Study should be included	<p>The City of Los Angeles Bureau of Sanitation (Bureau) greatly appreciates the revisions to the Toxics TMDL based on the findings of the <i>Toxicity Identification Evaluation of Sediment (Sediment TIE) in Ballona Creek Estuary Final Report</i>. The Bureau Watershed Protection Division (WPD) and Environmental Monitoring Division (EMD), in conjunction with the Southern California Coastal Water Research Project (SCCWRP), conducted a three year study (Toxicity Identification Evaluation (TIE)) funded by the Responsible Parties to determine the current extent of chemical contamination within the Ballona Creek Estuary and to determine likely causes of toxicity. The TIE Study was conducted consistent with the State’s Sediment Quality Objectives (SQOs) for toxic pollutants (Phase I SQOs) Stressor Identification Process. The TIE Study found that historical organic pollutants (total DDT, total PCBs, chlordane, and total PAHs) were not causing toxicity in the Ballona Creek Estuary. The main conclusions from the Sediment TIE Study related to historical organic pollutants included:</p> <ul style="list-style-type: none"> <li>• The Effects Range Low (ERL) sediment quality guideline values used as target concentrations for the chemicals listed in the Toxics TMDL were found to be inaccurate and highly conservative.</li> <li>• Concentrations of TMDL-listed compounds often exceeded numeric targets (ERLs), but there was a poor correlation between ERL concentrations and observed sample toxicity.</li> <li>• For the organic compounds, ERLs were several orders of magnitude below toxicity thresholds for benthic organisms.</li> <li>• Concentrations of chlordane, DDT, and DDE were 10 to 10,000 times below toxicity thresholds either developed in this study or reported in other studies.</li> <li>• Spiked sediment tests were conducted to estimate the toxicity thresholds of several trace organics listed in the TMDL: chlordane, DDT, and DDE. Comparison of Ballona Creek Estuary sediment chemical concentrations to the toxicity thresholds indicated that these chemicals were not present at concentrations high enough to cause toxicity.</li> <li>• Sediment concentrations of PAHs and PCBs were also below levels likely to cause direct sediment toxicity.</li> </ul> <p>Given these findings form the basis for removing the direct effects targets and allocations from the TMDL, it seems appropriate to note this in the Problem Statement and Staff Report.</p>
2	BPA, Problem Statement, Pg. 2	Information regarding the lack of an identifiable fish tissue impairment should	<p>During the development of the 2005 Toxics TMDL, an impairment for bioaccumulatives in fish tissue was not found and, as a result, fish tissue targets and allocations were not included. Subsequent to TMDL adoption, Regional Board staff recommended removing the DDT,</p>

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment																								
		be included	<p>chlordanane, and PCBs listings for fish tissue. The fish and mussel tissue data that have been collected in the Ballona Creek Estuary since TMDL adoption are shown in <b>Table 1</b> and <b>Table 2</b>. As indicated in <b>Table 1</b>, available fish tissue data that have been collected since the adoption of the 2005 Toxics TMDL do not demonstrate an impairment when compared to the Fish Contaminant Goals (FCGs) (used as proposed targets in the TMDL) and Advisory Tissue Levels (ATLs) listed in <i>Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene</i>. It should be noted that page 23 of the Draft Staff Report is incorrect in stating that “only three fish have been collected (in 2012).” There were composite samples for each of the three different fish species. The speckled sanddab composite consisted of tissue from nine individuals, the spotted turbot composite consisted of tissue from three individuals, and the staghorn sculpin composite consisted of fish tissue from ten individuals. In addition, as shown in <b>Table 2</b>, available mussel tissue data collected since the adoption of the 2005 Toxics TMDL also do not demonstrate an impairment when compared to the FCGs and ATLs.</p> <p><b>Table 1. Comparison of Fish Contaminant Goals and Advisory Tissue Levels with Ballona Creek Estuary 2012 Fish Tissue Sampling Event Results (ppb wet weight)</b></p> <table border="1" data-bbox="892 862 1837 1060"> <thead> <tr> <th>Constituent</th> <th>Fish Contaminant Goal<sup>1</sup></th> <th>Sample 1 (Speckled Sanddab)</th> <th>Sample 2 (Spotted Turbot)</th> <th>Sample 3 (Staghorn Sculpin)</th> <th>Advisory Tissue Level<sup>1</sup></th> </tr> </thead> <tbody> <tr> <td>Chlordane</td> <td>5.6</td> <td>0<sup>2</sup></td> <td>0<sup>2</sup></td> <td>0<sup>2</sup></td> <td>280</td> </tr> <tr> <td>Total DDTs</td> <td>21</td> <td>0<sup>2</sup></td> <td>0<sup>2</sup></td> <td>0<sup>2</sup></td> <td>1000</td> </tr> <tr> <td>Total PCBs</td> <td>3.6</td> <td>0<sup>2</sup></td> <td>0<sup>2</sup></td> <td>0<sup>2</sup></td> <td>42</td> </tr> </tbody> </table> <p><sup>1</sup> Based upon one 8-ounce serving per week (32 g/day).  <sup>2</sup> Individual isomers, congeners, or compounds were below the detection limit.</p>	Constituent	Fish Contaminant Goal <sup>1</sup>	Sample 1 (Speckled Sanddab)	Sample 2 (Spotted Turbot)	Sample 3 (Staghorn Sculpin)	Advisory Tissue Level <sup>1</sup>	Chlordane	5.6	0 <sup>2</sup>	0 <sup>2</sup>	0 <sup>2</sup>	280	Total DDTs	21	0 <sup>2</sup>	0 <sup>2</sup>	0 <sup>2</sup>	1000	Total PCBs	3.6	0 <sup>2</sup>	0 <sup>2</sup>	0 <sup>2</sup>	42
Constituent	Fish Contaminant Goal <sup>1</sup>	Sample 1 (Speckled Sanddab)	Sample 2 (Spotted Turbot)	Sample 3 (Staghorn Sculpin)	Advisory Tissue Level <sup>1</sup>																						
Chlordane	5.6	0 <sup>2</sup>	0 <sup>2</sup>	0 <sup>2</sup>	280																						
Total DDTs	21	0 <sup>2</sup>	0 <sup>2</sup>	0 <sup>2</sup>	1000																						
Total PCBs	3.6	0 <sup>2</sup>	0 <sup>2</sup>	0 <sup>2</sup>	42																						

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment																																
			<p><b>Table 2. Comparison of Fish Contaminant Goals and Advisory Tissue Levels with Ballona Creek Estuary 2009-2012 Composite Mussel Tissue Results (ppb wet weight)</b></p> <table border="1" data-bbox="892 375 1921 570"> <thead> <tr> <th>Constituent</th> <th>Fish Contaminant Goal<sup>1</sup></th> <th>BCE-2 2009</th> <th>BCE-2 2010</th> <th>BCE-2 2011</th> <th>BCE-4 2009</th> <th>BCE-4 2010</th> <th>Advisory Tissue Level<sup>1</sup></th> </tr> </thead> <tbody> <tr> <td>Chlordane</td> <td>5.6</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>280</td> </tr> <tr> <td>Total DDTs</td> <td>21</td> <td>6.5</td> <td>10.6</td> <td>18.5</td> <td>3.5</td> <td>8.7</td> <td>1000</td> </tr> <tr> <td>Total PCBs</td> <td>3.6</td> <td>3<sup>2</sup></td> <td>0</td> <td>0</td> <td>0<sup>2</sup></td> <td>0</td> <td>42</td> </tr> </tbody> </table> <p><sup>1</sup> Based upon one 8-ounce serving per week (32 g/day).  <sup>2</sup> Total PCB Congeners.</p> <p>Additionally, although the TMDL Reconsideration Staff Report references an OEHHA advisory, the OEHHA Fish Consumption Guidelines Report<sup>1</sup> clearly states, “Concentrations of chlordane and dieldrin were below levels of concern (see Klasing and Brodberg, 2008) and will not be addressed in this report.”<sup>2</sup> As such, fish consumption guidelines have <b>not</b> been instituted for southern California waters, including Ballona Creek Estuary, for chlordane.</p> <p>Given that an impairment was not found during the development of the 2005 Toxics TMDL and that the data that has been collected since the adoption of the 2005 Toxics TMDL also shows the absence of an identifiable impairment, numeric targets, loading capacities, and WLAs for chlordane, total DDT, and total PCBs should be removed. At a minimum, if sediment targets for indirect effects and fish tissue are still included despite this information, it seems appropriate to note this in the Problem Statement.</p>	Constituent	Fish Contaminant Goal <sup>1</sup>	BCE-2 2009	BCE-2 2010	BCE-2 2011	BCE-4 2009	BCE-4 2010	Advisory Tissue Level <sup>1</sup>	Chlordane	5.6	0	0	0	0	0	280	Total DDTs	21	6.5	10.6	18.5	3.5	8.7	1000	Total PCBs	3.6	3 <sup>2</sup>	0	0	0 <sup>2</sup>	0	42
Constituent	Fish Contaminant Goal <sup>1</sup>	BCE-2 2009	BCE-2 2010	BCE-2 2011	BCE-4 2009	BCE-4 2010	Advisory Tissue Level <sup>1</sup>																												
Chlordane	5.6	0	0	0	0	0	280																												
Total DDTs	21	6.5	10.6	18.5	3.5	8.7	1000																												
Total PCBs	3.6	3 <sup>2</sup>	0	0	0 <sup>2</sup>	0	42																												
3	BPA, Numeric Targets, Pg. 3	Indirect effects targets should not be included for constituents without an identifiable impairment	<p>The conclusions presented in comment #2 are consistent with the TMDL Reconsideration Staff Report, which does not indicate that fish tissue data demonstrate an impairment. Rather, the reasoning for inclusion of fish tissue and associated sediment targets is based on interpretation of a narrative objective as follows:</p> <p>“The State’s Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality (EB&amp;E Plan Part 1), which was adopted in 2009 after the original establishment of the toxics TMDL, includes (1) a narrative objective to protect benthic</p>																																

<sup>1</sup> *Health Advisory and Safe Eating Guidelines for Fish from Coastal Areas of Southern California: Ventura Harbor to San Mateo Point June 2009*. OEHHA, State of California.

<sup>2</sup> Klasing, S.; Brodberg, R. 2008. Development of Fish Contaminant Goals and Advisory Tissue Levels for common contaminants in California sport fish: Chlordane, DDTs, dieldrin, methylmercury, PCBs, selenium, and toxaphene. Office of Environmental Health Hazard Assessment, California Environmental Protection Agency.

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
 Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
			<p>communities along with an evaluation approach based on integrating multiple lines of evidence (the — “triad” approach) to determine whether this objective is achieved, and (2) a narrative objective to protect the human health beneficial use. Therefore, it is necessary to include fish tissue targets and associated sediment targets for the bioaccumulatives <b>to protect the human health beneficial use and ensure that the narrative objective for indirect effects contained in the State’s EB&amp;E Plan is achieved.”</b></p> <p>The draft Amendments to the EB&amp;E Plan Part 1 (Section IV.B), referenced in the TMDL Reconsideration Staff Report presents the following narrative objective for indirect effects to protect human health:</p> <p style="padding-left: 40px;">“Pollutants shall not be present in sediments at levels that will bioaccumulate in aquatic life to levels that are harmful to human health in bays and estuaries of California. <b>This narrative objective shall be implemented as described in Section VI.A of Part 1.”</b></p> <p>The draft Amendments to the EB&amp;E Plan Part 1 (Section VI.A) provides the following guidance on implementing the narrative objective:</p> <p style="padding-left: 40px;">“The narrative human health objective in Section IV. B. of this Part 1 <b>shall be implemented on a case-by-case basis, based upon a human health risk assessment.”</b></p> <p>As a result, if the results of a human health risk assessment show that the narrative objectives for indirect effects are not being achieved, it may be necessary to include fish tissue targets and associated sediment targets for the bioaccumulatives to protect human health and ensure that the narrative objective for indirect effects contained in the State’s EB&amp;E Plan is achieved. On the other hand, if the results of a human health risk assessment show that the narrative objectives for indirect effects are being achieved or if a human health risk assessment is not performed, it is not necessary to include fish tissue targets and associated sediment targets for the bioaccumulatives. Given that the results of a human health risk assessment were not presented in the TMDL Reconsideration Staff Report, it does not appear as if a human health risk assessment has been conducted.</p> <p>To evaluate the potential human health risk associated with sediments in the Estuary, a tool currently being considered by State Water Board staff as part of the Draft EB&amp;E Plan Part 2 implementation process was utilized to consider site-specific conditions which were not considered in the sediment targets proposed in the BPA (the proposed targets were developed for other waterbodies based on the site-specific conditions of those waterbodies, not Ballona</p>

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
 Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
			<p>Creek Estuary). The tool currently being considered by State Water Board staff to be included as part of the Draft EB&amp;E Plan Part 2 implementation process is the Human Health SQO Decision Support Tool (DST). The DST is an Excel workbook that performs the Tier II SQO site assessment referenced in the <i>Staff CEQA Scoping Informational Document: Phase II Sediment Quality Objectives for Enclosed Bays and Estuaries of California</i>. The purpose of the Tier II SQO site assessment is to determine if site sediments meet the sediment quality objective described in Section IV.B that protects human consumers of resident seafood from bioaccumulative contaminants in sediment. The Tier II SQO site assessment consists of an evaluation of both tissue data and sediment data to determine the potential hazard to human health, using available site-specific information. Consumption risk is evaluated for both cancer and non-cancer effects. Evaluation of sediment linkage utilizes a mechanistic food web model to estimate tissue concentrations derived from measured sediment concentrations. Although the DST has not yet been approved, it provides an initial evaluation of the risk and provides an overview of the general thought process that demonstrates the path that State Water Board staff are considering.</p> <p>The results obtained when using the DST with data collected from the Ballona Creek Estuary indicate the absence of an impairment for chlordane, total DDT, and total PCBs. The overall site assessment category is determined using the decision matrix presented in</p> <p>Table 3. Site sediments categorized as unimpacted or likely unimpacted meet the sediment quality objective protecting human consumers for the specific contaminant evaluated. Site sediments categorized as possibly impacted, likely impacted, or clearly impacted do not meet the sediment quality objective. As required, this evaluation has been performed separately for chlordane, total DDT, and total PCBs. In each case, the result for the consumption risk is categorized as <b>very low</b>. Thus, as indicated by the decision matrix in</p>

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
 Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment																																	
			<p>Table 3, the overall site assessment category is <b>unimpacted</b> for each constituent. This suggests that, based on site-specific data, sediment concentrations do not appear to be posing a risk to human health. This is contrary to the determination made in the TMDL amendment, which uses targets that were developed for other waterbodies, rather than Ballona Creek site-specific data.</p> <p><b>Table 3. Tier II SQO Site Assessment Categories</b></p> <table border="1"> <thead> <tr> <th colspan="2"></th> <th colspan="4">Consumption Risk</th> </tr> <tr> <th colspan="2"></th> <th>Very Low</th> <th>Low</th> <th>Moderate</th> <th>High</th> </tr> </thead> <tbody> <tr> <th rowspan="4">Site Sediment Contribution</th> <th>Very Low</th> <td>Unimpacted</td> <td>Unimpacted</td> <td>Likely Unimpacted</td> <td>Likely Unimpacted</td> </tr> <tr> <th>Low</th> <td>Unimpacted</td> <td>Unimpacted</td> <td>Possibly Impacted</td> <td>Possibly Impacted</td> </tr> <tr> <th>Moderate</th> <td>Unimpacted</td> <td>Likely Unimpacted</td> <td>Likely Impacted</td> <td>Likely Impacted</td> </tr> <tr> <th>High</th> <td>Unimpacted</td> <td>Likely Unimpacted</td> <td>Clearly Impacted</td> <td>Clearly Impacted</td> </tr> </tbody> </table> <p>Adoption of the currently proposed targets <b>will result in MS4 allocations that will be incorporated as effluent limits even though there is no identified impairment in fish tissue, and site-specific analysis does not suggest sediment are causing an impairment.</b> Removal of the currently proposed sediment targets for indirect effects is appropriate. Monitoring requirements currently stipulated in the Draft Revised TMDL can be maintained so that data</p>			Consumption Risk						Very Low	Low	Moderate	High	Site Sediment Contribution	Very Low	Unimpacted	Unimpacted	Likely Unimpacted	Likely Unimpacted	Low	Unimpacted	Unimpacted	Possibly Impacted	Possibly Impacted	Moderate	Unimpacted	Likely Unimpacted	Likely Impacted	Likely Impacted	High	Unimpacted	Likely Unimpacted	Clearly Impacted	Clearly Impacted
		Consumption Risk																																		
		Very Low	Low	Moderate	High																															
Site Sediment Contribution	Very Low	Unimpacted	Unimpacted	Likely Unimpacted	Likely Unimpacted																															
	Low	Unimpacted	Unimpacted	Possibly Impacted	Possibly Impacted																															
	Moderate	Unimpacted	Likely Unimpacted	Likely Impacted	Likely Impacted																															
	High	Unimpacted	Likely Unimpacted	Clearly Impacted	Clearly Impacted																															

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
			<p>will still be collected to ensure that the narrative objective for indirect effects contained in the State’s EB&amp;E Plan continues to be achieved. If the sediment targets for indirect effects and fish tissue are not removed, resources will be focused on the implementation of BMPs aimed at addressing constituents which do not appear to be causing or contributing to an impairment and, as a possible worst case scenario, the responsible parties may be forced to dredge the Estuary.</p> <p>The following provides a summary of the key points presented in the previous discussion:</p> <ol style="list-style-type: none"> <li>1. Available fish tissue and mussel data do not demonstrate an impairment;</li> <li>2. Sediment targets for indirect effects and fish tissue were included to protect the human health beneficial use and ensure that the narrative objective for indirect effects contained in the State’s EB&amp;E Plan is achieved;</li> <li>3. The narrative objective contained in the State’s EB&amp;E Plan clearly states that it should be implemented on a case-by-case basis, based upon a human health risk assessment;</li> <li>4. A human health risk assessment was not provided in the TMDL Reconsideration Staff Report to demonstrate the need for sediment targets for indirect effects and fish tissue;</li> <li>5. A human health risk assessment tool currently being considered by State Water Board staff indicates that the sediment quality objective protecting human consumers is met for chlordane, total DDT, and total PCBs;</li> <li>6. Chlordane, total DDTs, and total PCBs will continue to be monitored to ensure that the narrative objective for indirect effects contained in the State’s EB&amp;E Plan continues to be achieved; and</li> <li>7. Resources could be inappropriately diverted to BMPs and possibly dredging the Estuary, even though site-specific data does not suggest an impairment.</li> </ol> <p>As such, it is requested that the sediment targets for indirect effects and fish tissue be removed, monitoring be maintained, and, if appropriate, the TMDL be reconsidered after the adoption of new State policies utilizing site-specific data.</p>
4	BPA WLAs, Pg. 5	Loading capacities and WLAs should not be included for constituents without an identifiable impairment	As supported by the information presented in comments #2 and #3, indirect effects targets should not be included for constituents without an identifiable impairment. As such, the associated loading capacities and WLAs for chlordane, total DDT, and total PCBs should also be removed.
5	BPA Loading Capacity, WLAs, and Implementation, Pgs. 4, 5, and 9	Loading capacity and WLAs should also be based on allowable discharge not solely settleable capacity	As discussed in the 2005 BC Toxics TMDL Staff Report, the mass-based allocations are based on the sediments <i>deposited in the estuary</i> rather than what is <i>discharged from the watershed</i> . However, MS4 Permittees must address what they discharge from the watershed and cannot affect other sources of pollutants that may be deposited in the estuary. Including discharge based WLAs, instead of or in addition to deposition based WLAs, would be extremely helpful

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
 Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment															
			<p>for the purposes of implementation planning, evaluating individual jurisdiction’s contributions to loading, and ultimately determining compliance using data collected from MS4 discharges. MS4s will be monitoring at the outfalls to determine how much of these pollutants are discharged. If the mass <b>discharged</b> from MS4s measured at the outfalls is compared to the current WLAs based on what <b>settles</b>, Permittees could be out of compliance with the water quality based effluent limits (WQBELs) in the MS4 permit while still meeting the assumptions of the WLAs and goals of the TMDL. For implementation planning, modeling tools are heavily relied upon, were used for the development of the implementation plans for the Toxics TMDL, and will be used for the forthcoming Enhanced Watershed Management Program. These tools help select BMPs by estimating the reduction in the load of pollutants in the MS4 discharges rather than what is settled based on various combinations of BMPs. For these reasons, discharge based WLAs should be included in the TMDL consistent with the assumptions of the WLAs. The following discussion outlines how discharged based WLAs can be developed utilizing the information in the TMDL.</p> <p>The 2005 BC Toxics TMDL Staff Report estimated the average annual total sediment discharged as 44,615 m<sup>3</sup>/year and the average annual fine sediment deposited as 5,004 m<sup>3</sup>/year. Given this information, the percentage of the total discharged sediment that is ultimately deposited as fine sediment is 11.2%. As previously stated, including discharge based WLAs, instead of, or in addition to, deposition based WLAs, would be extremely helpful and appropriate. Discharge based WLAs may be calculated by dividing the currently used loading capacity and WLAs, which are based on the fine sediment that settles, by the percentage of the total discharged sediment that is ultimately deposited as fine sediment, 11.2%. As such, it is requested that the following additional information be included in the Loading Capacity section for clarification purposes:</p> <p>The loading capacity for Ballona Creek Estuary is calculated by multiplying the numeric targets by the average annual deposition of fine sediment, defined as silts (grain size 0.0625 millimeters) and smaller, within the Estuary <u>and the average annual discharge of total sediment</u> by the bulk density of the sediment. The average annual fine sediment deposited is 5,004 cubic meters per year (m<sup>3</sup>/yr), <u>the average annual total sediment discharge is 44,615 m<sup>3</sup>/yr</u>, and the bulk density is 1.42 metric tons per cubic meter (mt/m<sup>3</sup>). The TMDL is set equal to the <u>discharged</u> loading capacity.</p> <table border="1" data-bbox="892 1339 1570 1422"> <thead> <tr> <th colspan="5"><b>Metals Settled Loading Capacity (kilograms/year)</b></th> </tr> <tr> <th>Cadmium</th> <th>Copper</th> <th>Lead</th> <th>Silver</th> <th>Zinc</th> </tr> </thead> <tbody> <tr> <td>8.5</td> <td>241.6</td> <td>332</td> <td>7.1</td> <td>1,066</td> </tr> </tbody> </table>	<b>Metals Settled Loading Capacity (kilograms/year)</b>					Cadmium	Copper	Lead	Silver	Zinc	8.5	241.6	332	7.1	1,066
<b>Metals Settled Loading Capacity (kilograms/year)</b>																		
Cadmium	Copper	Lead	Silver	Zinc														
8.5	241.6	332	7.1	1,066														

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
 Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment																																																											
			<p style="text-align: center;"><b><u>Organics Settled Loading Capacity (grams/year)</u></b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;"><u>Chlordane</u></td> <td style="width: 33%;"><u>DDTs</u></td> <td style="width: 33%;"><u>Total PCBs</u></td> </tr> <tr> <td style="text-align: center;">9.2</td> <td style="text-align: center;">13.5</td> <td style="text-align: center;">22.7</td> </tr> </table> <p style="text-align: center;"><b><u>Metals Discharged Loading Capacity (kilograms/year)</u></b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><u>Cadmium</u></td> <td style="width: 20%;"><u>Copper</u></td> <td style="width: 20%;"><u>Lead</u></td> <td style="width: 20%;"><u>Silver</u></td> <td style="width: 20%;"><u>Zinc</u></td> </tr> <tr> <td style="text-align: center;">75.9</td> <td style="text-align: center;">2,157</td> <td style="text-align: center;">2,964</td> <td style="text-align: center;">63.4</td> <td style="text-align: center;">9,518</td> </tr> </table> <p style="text-align: center;"><b><u>Organics Discharged Loading Capacity (grams/year)</u></b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;"><u>Chlordane</u></td> <td style="width: 33%;"><u>DDTs</u></td> <td style="width: 33%;"><u>Total PCBs</u></td> </tr> <tr> <td style="text-align: center;">82.1</td> <td style="text-align: center;">120.5</td> <td style="text-align: center;">202.7</td> </tr> </table> <p>It is also requested that the LAs are referred to as “Settled Load Allocations” and that the following additional information be included in the WLAs section for clarification purposes:</p> <p style="text-align: center;"><b><u>Metals Settled Waste Load Allocations for Storm Water (kg/yr)</u></b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><u>Cadmium</u></td> <td style="width: 20%;"><u>Copper</u></td> <td style="width: 20%;"><u>Lead</u></td> <td style="width: 20%;"><u>Silver</u></td> <td style="width: 20%;"><u>Zinc</u></td> </tr> <tr> <td style="text-align: center;">8.4</td> <td style="text-align: center;">238.8</td> <td style="text-align: center;">328</td> <td style="text-align: center;">7.02</td> <td style="text-align: center;">1,054</td> </tr> </table> <p style="text-align: center;"><b><u>Organics Settled Waste Load Allocations for Storm Water (g/yr)</u></b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;"><u>Chlordane</u></td> <td style="width: 33%;"><u>DDTs</u></td> <td style="width: 33%;"><u>Total PCBs</u></td> </tr> <tr> <td style="text-align: center;">9.13</td> <td style="text-align: center;">13.35</td> <td style="text-align: center;">22.48</td> </tr> </table> <p style="text-align: center;"><b><u>Metals Discharged Load Allocations for Storm Water (kg/yr)</u></b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><u>Cadmium</u></td> <td style="width: 20%;"><u>Copper</u></td> <td style="width: 20%;"><u>Lead</u></td> <td style="width: 20%;"><u>Silver</u></td> <td style="width: 20%;"><u>Zinc</u></td> </tr> <tr> <td style="text-align: center;">75.0</td> <td style="text-align: center;">2,132</td> <td style="text-align: center;">2,929</td> <td style="text-align: center;">62.7</td> <td style="text-align: center;">9,411</td> </tr> </table> <p style="text-align: center;"><b><u>Organics Discharged Load Allocations for Storm Water (g/yr)</u></b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;"><u>Chlordane</u></td> <td style="width: 33%;"><u>DDTs</u></td> <td style="width: 33%;"><u>Total PCBs</u></td> </tr> <tr> <td style="text-align: center;">81.5</td> <td style="text-align: center;">119.2</td> <td style="text-align: center;">200.7</td> </tr> </table> <p>The storm water waste load allocations are apportioned between the MS4 permittees, Caltrans, the general construction and the general industrial storm water permits based on an <u>areal</u> weighting approach.</p> <p style="text-align: center;"><b><u>Metals Settled Storm Water WLAs Apportioned between Permits (kg/yr)</u></b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><u>Cadmium</u></td> <td style="width: 20%;"><u>Copper</u></td> <td style="width: 20%;"><u>Lead</u></td> <td style="width: 20%;"><u>Silver</u></td> <td style="width: 20%;"><u>Zinc</u></td> </tr> </table>	<u>Chlordane</u>	<u>DDTs</u>	<u>Total PCBs</u>	9.2	13.5	22.7	<u>Cadmium</u>	<u>Copper</u>	<u>Lead</u>	<u>Silver</u>	<u>Zinc</u>	75.9	2,157	2,964	63.4	9,518	<u>Chlordane</u>	<u>DDTs</u>	<u>Total PCBs</u>	82.1	120.5	202.7	<u>Cadmium</u>	<u>Copper</u>	<u>Lead</u>	<u>Silver</u>	<u>Zinc</u>	8.4	238.8	328	7.02	1,054	<u>Chlordane</u>	<u>DDTs</u>	<u>Total PCBs</u>	9.13	13.35	22.48	<u>Cadmium</u>	<u>Copper</u>	<u>Lead</u>	<u>Silver</u>	<u>Zinc</u>	75.0	2,132	2,929	62.7	9,411	<u>Chlordane</u>	<u>DDTs</u>	<u>Total PCBs</u>	81.5	119.2	200.7	<u>Cadmium</u>	<u>Copper</u>	<u>Lead</u>	<u>Silver</u>	<u>Zinc</u>
<u>Chlordane</u>	<u>DDTs</u>	<u>Total PCBs</u>																																																												
9.2	13.5	22.7																																																												
<u>Cadmium</u>	<u>Copper</u>	<u>Lead</u>	<u>Silver</u>	<u>Zinc</u>																																																										
75.9	2,157	2,964	63.4	9,518																																																										
<u>Chlordane</u>	<u>DDTs</u>	<u>Total PCBs</u>																																																												
82.1	120.5	202.7																																																												
<u>Cadmium</u>	<u>Copper</u>	<u>Lead</u>	<u>Silver</u>	<u>Zinc</u>																																																										
8.4	238.8	328	7.02	1,054																																																										
<u>Chlordane</u>	<u>DDTs</u>	<u>Total PCBs</u>																																																												
9.13	13.35	22.48																																																												
<u>Cadmium</u>	<u>Copper</u>	<u>Lead</u>	<u>Silver</u>	<u>Zinc</u>																																																										
75.0	2,132	2,929	62.7	9,411																																																										
<u>Chlordane</u>	<u>DDTs</u>	<u>Total PCBs</u>																																																												
81.5	119.2	200.7																																																												
<u>Cadmium</u>	<u>Copper</u>	<u>Lead</u>	<u>Silver</u>	<u>Zinc</u>																																																										

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
 Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment					
			MS4 Permittees	8.0	227.3	312.3	6.69	1003
			Caltrans	0.11	3.2	4.4	0.09	14
			General Construction	0.23	6.6	9.1	0.20	29
			General Industrial	0.06	1.7	2.3	0.05	7
<b>Organics Settled Storm Water WLAs Apportioned between Permits (g/yr)</b>								
				Chlordane		DDTs		Total PCBs
			MS4 Permittees	8.69		12.70		21.40
			Caltrans	0.12		0.18		0.30
			General Construction	0.25		0.37		0.62
			General Industrial	0.06		0.09		0.16
<b>Metals Discharged Storm Water WLAs Apportioned between Permits (kg/yr)</b>								
				<u>Cadmium</u>	<u>Copper</u>	<u>Lead</u>	<u>Silver</u>	<u>Zinc</u>
			<u>MS4 Permittees</u>	<u>71</u>	<u>2029</u>	<u>2788</u>	<u>59.7</u>	<u>8955</u>
			<u>Caltrans</u>	<u>0.98</u>	<u>29</u>	<u>39</u>	<u>0.80</u>	<u>125</u>
			<u>General Construction</u>	<u>2.1</u>	<u>59</u>	<u>81</u>	<u>1.8</u>	<u>259</u>
			<u>General Industrial</u>	<u>0.54</u>	<u>15</u>	<u>21</u>	<u>0.45</u>	<u>63</u>
<b>Organics Discharged Storm Water WLAs Apportioned between Permits (g/yr)</b>								
				<u>Chlordane</u>		<u>DDTs</u>		<u>Total PCBs</u>
			<u>MS4 Permittees</u>	<u>78</u>		<u>113</u>		<u>191</u>
			<u>Caltrans</u>	<u>1.1</u>		<u>1.6</u>		<u>2.7</u>
			<u>General Construction</u>	<u>2.2</u>		<u>3.3</u>		<u>5.5</u>
			<u>General Industrial</u>	<u>0.54</u>		<u>0.80</u>		<u>1.4</u>
<p>If the discharge based WLAs are not included in the TMDL, language should be included in the BPA and Staff Report clearly indicating that the WLAs apply to what settles on the bed sediment and does not directly correspond to an allowable effluent loading as follows:</p> <p>Compliance with sediment WLAs for copper, lead, and zinc, may be demonstrated via any one of three different means:</p> <ol style="list-style-type: none"> <li>a. Sediment numeric targets are met in bed sediments.</li> <li>b. The qualitative sediment condition of <b>Unimpacted</b> or <b>Likely Unimpacted</b> via the interpretation and integration of multiple lines of evidence as defined in the SQOs, is met.</li> </ol>								

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
 Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
			<p>c. Final sediment allocations, as presented above, are met. <u>If data characterizing the load in discharged sediment are obtained, the discharged sediment load shall be multiplied by 0.112 (the ratio of sediment that settles to sediment that is discharged) to assess attainment of the final sediment allocations.</u></p> <p>Compliance with sediment WLAs for Chlordane, total DDT, and total PCBs may be demonstrated via any one of four different means:</p> <ol style="list-style-type: none"> <li>1. Sediment numeric targets are met in bed sediments.</li> <li>2. Fish tissue targets are met in species resident to Ballona Creek Estuary.</li> <li>3. Final sediment allocations, as presented above, are met. <u>If data characterizing the load in discharged sediment are obtained, the discharged sediment load shall be multiplied by 0.112 (the ratio of sediment that settles to sediment that is discharged) to assess attainment of the final sediment allocations.</u></li> <li>4. Demonstrate that the sediment quality condition protective of fish tissue is achieved per the Statewide Enclosed Bays and Estuaries Plan, as amended to address contaminants in resident finfish and wildlife.</li> </ol>
6	BPA Implementation, Pg. 9	Additional compliance language should be included to provide a mechanism allowing the results of a TIE analysis or Stressor ID Study to demonstrate compliance for an individual constituent	<p>Addition of the multiple methods for demonstrating compliance is appreciated. One additional mechanism for determining compliance should be considered. The TIE Study found that the historical organics were not contributing to toxicity and related targets for direct effects have been removed. The TIE Study also indicated that trace metals were most likely not causing sediment toxicity; however, several tests were inconclusive. Additional research is necessary and these direct effects targets and associated allocations are retained. However, if in the future it is determined that these metals are not causing or contributing to toxicity, an additional compliance mechanism should be included so that Permittees do not face non-compliance prior to the Regional Board reopening the TMDL. As such, the following revisions to the compliance demonstration approaches are requested:</p> <p>Compliance with sediment WLAs for copper, lead, and zinc, may be demonstrated via any one of <del>three</del> <u>four</u> different means:</p> <ol style="list-style-type: none"> <li>a. Sediment numeric targets are met in bed sediments.</li> <li>b. The qualitative sediment condition of <b>Unimpacted</b> or <b>Likely Unimpacted</b> via the interpretation and integration of multiple lines of evidence as defined in the SQOs, is met.</li> <li>c. Final sediment allocations, as presented above, are met.</li> <li>d. <u>Results of a Toxicity Identification Evaluation or Phase I Stressor ID study determine</u></li> </ol>

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
 Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment																					
			<u>that copper, lead, and/or zinc are not causing toxicity.</u>																					
7	BPA Implementation, Pg. 9, 15, 16, 18, and 19	% reduction should relate to “baseline” conditions rather than “current” conditions	<p>The Bureau appreciates the inclusion of an approach that allows for compliance with interim allocations to be based on load reduction in addition to the percent area approach. The addition of this approach is important as the purpose of the TMDL is to reduce the loading of toxics to the Estuary and BMPs are selected and located within the watershed based on their efficiency and effectiveness at reducing pollutant loadings. However, it is requested that the term “current loading” be replaced with “baseline loading”. This would help to avoid confusion on the intent of the revision. The goal is to reduce loadings from the “baseline” that existed when the impairment was identified to meet the TMDL targets and attain the beneficial uses. The requested change would need to be made throughout the BPA and Staff Report.</p> <p>To demonstrate a percent load reduction, it is necessary to first estimate a “baseline” loading upon which the reduction would be based. Though a baseline estimate of loading was not computed as part of the Toxics TMDL, a conservative estimate of loading at the time of TMDL development can be calculated using data presented in the 2005 Toxics TMDL Staff Report. As this data was used to determine the impairment of the Estuary, it seems appropriate to establish the baseline estimate of loading on the same data collected in the Estuary. The sediment data from the Estuary were collected at Station 440240 by the State’s Bay Protection and Toxic Cleanup Program (BPTCP). These data were collected in the portion of the Estuary where samples are currently collected to evaluate whether the TMDL targets are being met.</p> <p>The range of concentrations from the BPTCP study is presented in Table 2-5 of the 2005 Toxics TMDL Staff Report. The maximum concentration for each constituent in Table 2-5 was utilized as a conservative estimate of baseline sediment concentrations in the Ballona Creek Estuary. <b>Table 4</b> presents a comparison between the measured concentrations and the TMDL targets. As expected, all baseline constituent concentrations are greater than the TMDL target.</p> <p><b>Table 4. Estimated Concentrations in Sediment Compared to TMDL Targets</b></p> <table border="1" data-bbox="892 1185 1690 1445"> <thead> <tr> <th data-bbox="892 1185 1102 1250">Metals</th> <th data-bbox="1102 1185 1480 1250">Concentration in Sediment (mg/kg) <sup>1</sup></th> <th data-bbox="1480 1185 1690 1250">TMDL Target (mg/kg)</th> </tr> </thead> <tbody> <tr> <td data-bbox="892 1250 1102 1282">Cadmium</td> <td data-bbox="1102 1250 1480 1282">2.15</td> <td data-bbox="1480 1250 1690 1282">1.2</td> </tr> <tr> <td data-bbox="892 1282 1102 1315">Copper</td> <td data-bbox="1102 1282 1480 1315">120</td> <td data-bbox="1480 1282 1690 1315">34</td> </tr> <tr> <td data-bbox="892 1315 1102 1347">Lead</td> <td data-bbox="1102 1315 1480 1347">113</td> <td data-bbox="1480 1315 1690 1347">46.7</td> </tr> <tr> <td data-bbox="892 1347 1102 1380">Silver</td> <td data-bbox="1102 1347 1480 1380">3.55</td> <td data-bbox="1480 1347 1690 1380">1</td> </tr> <tr> <td data-bbox="892 1380 1102 1412">Zinc</td> <td data-bbox="1102 1380 1480 1412">464</td> <td data-bbox="1480 1380 1690 1412">150</td> </tr> <tr> <td data-bbox="892 1412 1102 1445"><b>Organics</b></td> <td data-bbox="1102 1412 1480 1445"><b>Concentration in Sediment</b></td> <td data-bbox="1480 1412 1690 1445"><b>TMDL Target</b></td> </tr> </tbody> </table>	Metals	Concentration in Sediment (mg/kg) <sup>1</sup>	TMDL Target (mg/kg)	Cadmium	2.15	1.2	Copper	120	34	Lead	113	46.7	Silver	3.55	1	Zinc	464	150	<b>Organics</b>	<b>Concentration in Sediment</b>	<b>TMDL Target</b>
Metals	Concentration in Sediment (mg/kg) <sup>1</sup>	TMDL Target (mg/kg)																						
Cadmium	2.15	1.2																						
Copper	120	34																						
Lead	113	46.7																						
Silver	3.55	1																						
Zinc	464	150																						
<b>Organics</b>	<b>Concentration in Sediment</b>	<b>TMDL Target</b>																						

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
 Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment																																																																		
			<table border="1" data-bbox="892 300 1690 435"> <thead> <tr> <th></th> <th>(ug/kg)<sup>1</sup></th> <th>(ug/kg)</th> </tr> </thead> <tbody> <tr> <td>Total DDT</td> <td>198</td> <td>1.9</td> </tr> <tr> <td>Total PCB<sup>2</sup></td> <td>431</td> <td>3.2</td> </tr> <tr> <td>Chlordane</td> <td>108</td> <td>1.3</td> </tr> </tbody> </table> <p><sup>1</sup> Maximum sediment concentrations at BPTCP 440240 presented in Table 2-5 of the 2005 Toxics TMDL Staff Report.  <sup>2</sup> Data are in terms of sum of congeners.</p> <p>To estimate the baseline loadings to the Estuary the annual total sediment load discharged from Ballona Creek (Column 1 of <b>Table 5</b>) was multiplied by baseline sediment concentrations for each constituent (Column 2 of <b>Table 5</b>) to obtain baseline loading estimates (Column 3 of <b>Table 5</b>). Baseline MS4 loading (Column 5 of <b>Table 5</b>) is calculated by multiplying the total load (Column 3 of <b>Table 5</b>). ) by the percent MS4 area in the watershed (Column 4 of <b>Table 5</b>).</p> <p><b>Table 5. Estimates of Baseline Loading and MS4 Loading to Ballona Creek Estuary</b></p> <table border="1" data-bbox="892 927 1906 1433"> <thead> <tr> <th></th> <th>(1)</th> <th>(2)</th> <th>(3)</th> <th>(4)</th> <th>(5)</th> </tr> <tr> <th>Metals</th> <th>Sediment Discharged (mt/year)<sup>1</sup></th> <th>Concentration in Sediment (mg/kg)<sup>2</sup></th> <th>Baseline Loading (kg/yr)</th> <th>% MS4 area in the watershed</th> <th>Baseline MS4 Loading (kg/yr)</th> </tr> </thead> <tbody> <tr> <td>Cadmium</td> <td></td> <td>2.15</td> <td>136.2</td> <td></td> <td>128.2</td> </tr> <tr> <td>Copper</td> <td></td> <td>120</td> <td>7,602</td> <td></td> <td>7,153</td> </tr> <tr> <td>Lead</td> <td>63,350</td> <td>113</td> <td>7,159</td> <td>94.1%</td> <td>6,737</td> </tr> <tr> <td>Silver</td> <td></td> <td>3.55</td> <td>224.9</td> <td></td> <td>211.6</td> </tr> <tr> <td>Zinc</td> <td></td> <td>464</td> <td>29,396</td> <td></td> <td>27,662</td> </tr> <tr> <th>Organics</th> <th>Sediment Discharged (mt/year)<sup>1</sup></th> <th>Concentration in Sediment (ug/kg)<sup>2</sup></th> <th>Baseline Loading (g/yr)</th> <th>% MS4 area in the watershed</th> <th>Baseline MS4 Loading (g/yr)</th> </tr> <tr> <td>Total DDT</td> <td>63,350</td> <td>198</td> <td>12,544</td> <td>94.1%</td> <td>11,803</td> </tr> </tbody> </table>		(ug/kg) <sup>1</sup>	(ug/kg)	Total DDT	198	1.9	Total PCB <sup>2</sup>	431	3.2	Chlordane	108	1.3		(1)	(2)	(3)	(4)	(5)	Metals	Sediment Discharged (mt/year) <sup>1</sup>	Concentration in Sediment (mg/kg) <sup>2</sup>	Baseline Loading (kg/yr)	% MS4 area in the watershed	Baseline MS4 Loading (kg/yr)	Cadmium		2.15	136.2		128.2	Copper		120	7,602		7,153	Lead	63,350	113	7,159	94.1%	6,737	Silver		3.55	224.9		211.6	Zinc		464	29,396		27,662	Organics	Sediment Discharged (mt/year) <sup>1</sup>	Concentration in Sediment (ug/kg) <sup>2</sup>	Baseline Loading (g/yr)	% MS4 area in the watershed	Baseline MS4 Loading (g/yr)	Total DDT	63,350	198	12,544	94.1%	11,803
	(ug/kg) <sup>1</sup>	(ug/kg)																																																																			
Total DDT	198	1.9																																																																			
Total PCB <sup>2</sup>	431	3.2																																																																			
Chlordane	108	1.3																																																																			
	(1)	(2)	(3)	(4)	(5)																																																																
Metals	Sediment Discharged (mt/year) <sup>1</sup>	Concentration in Sediment (mg/kg) <sup>2</sup>	Baseline Loading (kg/yr)	% MS4 area in the watershed	Baseline MS4 Loading (kg/yr)																																																																
Cadmium		2.15	136.2		128.2																																																																
Copper		120	7,602		7,153																																																																
Lead	63,350	113	7,159	94.1%	6,737																																																																
Silver		3.55	224.9		211.6																																																																
Zinc		464	29,396		27,662																																																																
Organics	Sediment Discharged (mt/year) <sup>1</sup>	Concentration in Sediment (ug/kg) <sup>2</sup>	Baseline Loading (g/yr)	% MS4 area in the watershed	Baseline MS4 Loading (g/yr)																																																																
Total DDT	63,350	198	12,544	94.1%	11,803																																																																

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
 Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment																																																								
			<table border="1" data-bbox="892 300 1915 397"> <tr> <td>Total PCB</td> <td>431<sup>3</sup></td> <td>27,305</td> <td>25,694</td> </tr> <tr> <td>Chlordane</td> <td>108</td> <td>6,842</td> <td>6,438</td> </tr> </table> <p><sup>1</sup> Total sediment discharged is equal to the total volume of sediment discharged (44,615 m<sup>3</sup>/yr) multiplied by the bulk density of sediment (1.42 mt/m<sup>3</sup>), as described on page 36 of the 2005 Toxics TMDL Staff Report.  <sup>2</sup> Maximum sediment concentrations at BPTCP 440240 presented in Table 2-5 of the 2005 Toxics TMDL Staff Report.  <sup>3</sup> Data are in terms of sum of congeners.</p> <p>With the baseline loadings calculated in Column 5 of <b>Table 5</b>, interim milestones in terms of percent reductions of the load to the Estuary can be calculated. The baseline estimated load and corresponding percent reduction interim milestones are presented in <b>Table 6</b>. As an example, the loads corresponding to the 25% interim milestone were calculated by first computing 25% of the difference between the Baseline MS4 Loading (Column 1 of <b>Table 6</b>) and the Allowable MS4 Loading (Column 2 of <b>Table 6</b>) to obtain the required 25% load reduction and then subtracting the 25% load reduction from the Baseline MS4 Loading (Column 1 of <b>Table 6</b>) to obtain the total allowable load with a 25% load reduction (Column 3 of <b>Table 6</b>). The allowable loads with 50% load reductions (Column 4 of <b>Table 6</b>) and 75% load reductions (Column 5 of <b>Table 6</b>) were calculated similarly.</p> <p>In summary, the addition of the option to demonstrate attainment of interim milestones based on loading reductions based on “baseline” conditions is consistent with the goals of the TMDL, the approach used to select and site BMPs, and recently adopted TMDLs.</p> <p><b>Table 6. Estimates of Baseline MS4 Loading to Ballona Creek Estuary and Interim Milestone Reductions</b></p> <table border="1" data-bbox="892 1144 1915 1430"> <thead> <tr> <th></th> <th>(1)</th> <th>(2)</th> <th>(3)</th> <th>(4)</th> <th>(5)</th> </tr> <tr> <th></th> <th>Baseline MS4 Loading<sup>1</sup></th> <th>Allowable MS4 Loading<sup>2</sup></th> <th>25% Reduction</th> <th>50% Reduction</th> <th>75% Reduction</th> </tr> <tr> <th>Metals</th> <th>(kg/yr)</th> <th>(kg/yr)</th> <th>(kg/yr)</th> <th>(kg/yr)</th> <th>(kg/yr)</th> </tr> </thead> <tbody> <tr> <td>Cadmium</td> <td>128</td> <td>71</td> <td>114</td> <td>99.8</td> <td>85.6</td> </tr> <tr> <td>Copper</td> <td>7,153</td> <td>2,029</td> <td>5,872</td> <td>4,591</td> <td>3,310</td> </tr> <tr> <td>Lead</td> <td>6,737</td> <td>2,788</td> <td>5,750</td> <td>4,763</td> <td>3,775</td> </tr> <tr> <td>Silver</td> <td>212</td> <td>59.7</td> <td>174</td> <td>136</td> <td>97.8</td> </tr> <tr> <td>Zinc</td> <td>27,660</td> <td>8,955</td> <td>22,984</td> <td>18,308</td> <td>13,631</td> </tr> </tbody> </table>	Total PCB	431 <sup>3</sup>	27,305	25,694	Chlordane	108	6,842	6,438		(1)	(2)	(3)	(4)	(5)		Baseline MS4 Loading <sup>1</sup>	Allowable MS4 Loading <sup>2</sup>	25% Reduction	50% Reduction	75% Reduction	Metals	(kg/yr)	(kg/yr)	(kg/yr)	(kg/yr)	(kg/yr)	Cadmium	128	71	114	99.8	85.6	Copper	7,153	2,029	5,872	4,591	3,310	Lead	6,737	2,788	5,750	4,763	3,775	Silver	212	59.7	174	136	97.8	Zinc	27,660	8,955	22,984	18,308	13,631
Total PCB	431 <sup>3</sup>	27,305	25,694																																																								
Chlordane	108	6,842	6,438																																																								
	(1)	(2)	(3)	(4)	(5)																																																						
	Baseline MS4 Loading <sup>1</sup>	Allowable MS4 Loading <sup>2</sup>	25% Reduction	50% Reduction	75% Reduction																																																						
Metals	(kg/yr)	(kg/yr)	(kg/yr)	(kg/yr)	(kg/yr)																																																						
Cadmium	128	71	114	99.8	85.6																																																						
Copper	7,153	2,029	5,872	4,591	3,310																																																						
Lead	6,737	2,788	5,750	4,763	3,775																																																						
Silver	212	59.7	174	136	97.8																																																						
Zinc	27,660	8,955	22,984	18,308	13,631																																																						

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment																								
			<table border="1" data-bbox="892 303 1885 511"> <thead> <tr> <th data-bbox="892 303 1039 407">Organics</th> <th data-bbox="1039 303 1249 407">Baseline MS4 Loading<sup>1</sup> (g/yr)</th> <th data-bbox="1249 303 1459 407">Allowable MS4 Loading<sup>2</sup> (g/yr)</th> <th data-bbox="1459 303 1606 407">25% Reduction (g/yr)</th> <th data-bbox="1606 303 1753 407">50% Reduction (g/yr)</th> <th data-bbox="1753 303 1885 407">75% Reduction (g/yr)</th> </tr> </thead> <tbody> <tr> <td data-bbox="892 407 1039 440">Total DDT</td> <td data-bbox="1039 407 1249 440">11,803</td> <td data-bbox="1249 407 1459 440">113</td> <td data-bbox="1459 407 1606 440">8,881</td> <td data-bbox="1606 407 1753 440">5,958</td> <td data-bbox="1753 407 1885 440">3,036</td> </tr> <tr> <td data-bbox="892 440 1039 472">Total PCB</td> <td data-bbox="1039 440 1249 472">25,694</td> <td data-bbox="1249 440 1459 472">191</td> <td data-bbox="1459 440 1606 472">19,318</td> <td data-bbox="1606 440 1753 472">12,943</td> <td data-bbox="1753 440 1885 472">6,567</td> </tr> <tr> <td data-bbox="892 472 1039 511">Chlordane</td> <td data-bbox="1039 472 1249 511">6,438</td> <td data-bbox="1249 472 1459 511">78</td> <td data-bbox="1459 472 1606 511">4,848</td> <td data-bbox="1606 472 1753 511">3,258</td> <td data-bbox="1753 472 1885 511">1,668</td> </tr> </tbody> </table> <p data-bbox="892 511 1554 544"><sup>1</sup> Baseline MS4 loading calculations are presented in <b>Table 5</b>.</p> <p data-bbox="892 544 1923 672"><sup>2</sup> Allowable MS4 loading was obtained from the Discharged MS4 WLAs presented in comment #5 and can also be calculated by multiplying the annual total sediment load discharged from Ballona Creek (Column 1 of <b>Table 5</b>) by the percent MS4 area in the watershed (Column 4 of <b>Table 5</b>) and the TMDL target (<b>Table 4</b>).</p>	Organics	Baseline MS4 Loading <sup>1</sup> (g/yr)	Allowable MS4 Loading <sup>2</sup> (g/yr)	25% Reduction (g/yr)	50% Reduction (g/yr)	75% Reduction (g/yr)	Total DDT	11,803	113	8,881	5,958	3,036	Total PCB	25,694	191	19,318	12,943	6,567	Chlordane	6,438	78	4,848	3,258	1,668
Organics	Baseline MS4 Loading <sup>1</sup> (g/yr)	Allowable MS4 Loading <sup>2</sup> (g/yr)	25% Reduction (g/yr)	50% Reduction (g/yr)	75% Reduction (g/yr)																						
Total DDT	11,803	113	8,881	5,958	3,036																						
Total PCB	25,694	191	19,318	12,943	6,567																						
Chlordane	6,438	78	4,848	3,258	1,668																						
8	BPA, Monitoring Pg. 11	Include reference to SQOs document to avoid unnecessarily re-considering TMDL	<p data-bbox="892 685 1923 836">To be consistent with Table 7-14.2 which provides a schedule for revising the coordinated monitoring plan (or Coordinated Integrated Monitoring Program as discussed in comment #12) to be in compliance with the revised TMDL, and to prevent the Toxics TMDL from being unnecessarily re-considered in the event that the SQOs Part 1 is modified, the following revisions are requested:</p> <p data-bbox="892 860 1923 1143">Sediment quality objective evaluation for direct effects as detailed in the SQOs (sediment triad sampling) shall be performed every five years beginning <del>in 2008</del> <u>after the revised coordinated monitoring plan or the MS4 Permit required Integrated Monitoring Program or Coordinated Integrated Monitoring Program is approved per Table 7-14.2</u>. Sampling and analysis <del>for the full chemical suite, two toxicity tests and four benthic indices</del> as specified in the SQOs Part 1 shall be conducted and evaluated. Locations for sediment triad assessment and the methodology for combining results from sampling locations to determine sediment conditions shall be specified in the Coordinated Monitoring Plan <u>or the MS4 Permit required Integrated Monitoring Program or Coordinated Integrated Monitoring Program</u> to be approved by the Executive Officer.</p>																								
9	BPA, Monitoring Pg. 12	Include language clarifying when additional stressor identifications shall be conducted	<p data-bbox="892 1156 1923 1403">A stressor identification, as required by the EB&amp;E Plan Part 1 (Section VII.F) has already been conducted and the stressors have been identified. To be consistent with Table 7-14.2 which provides a schedule for revising the coordinated monitoring plan (or Coordinated Integrated Monitoring Program as discussed in comment #12) to be in compliance with the revised TMDL, and regardless of whether sediments fail to meet the protective conditions of <b>Unimpacted or Likely Unimpacted</b>, additional stressor identifications should not be required unless evidence suggests that the results of the most recent stressor identification may not be representative of current conditions. As such, the following revisions are requested:</p>																								

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
			<p>A stressor identification, as required by the EB&amp;E Plan Part 1 (Section VII.F), shall be conducted if sediments fail to meet the protective condition of <b>Unimpacted</b> or <b>Likely Unimpacted</b> after <del>2013</del> <u>the revised coordinated monitoring plan or the MS4 Permit required Integrated Monitoring Program or Coordinated Integrated Monitoring Program is approved per Table 7-14.2 and evidence suggests that the results of the most recent stressor identification may not be representative of current conditions.</u></p>
10	BPA, Monitoring Pg. 12	Non-triad sediment monitoring requirements should be omitted	<p>The triad sampling events will provide sufficient data to evaluate trends in general sediment quality constituents and listed constituents relative to sediment quality targets. Furthermore, trends in general sediment quality constituents and listed constituents relative to sediment quality targets are not expected to change until planned implementation efforts (i.e., BMPs) are in place. As such, the following revisions are requested:</p> <p>Sediment chemistry and sediment toxicity samples shall be collected <del>annually (in addition to, the sediment triad sampling events as described above)</del> <u>annually (in addition to, the sediment triad sampling events as described above)</u>, to evaluate trends in general sediment quality constituents (TOC, grain size) and listed constituents (cadmium, copper, lead, silver, zinc, chlordane, total DDT, <del>total PAHs</del>, and total PCBs) relative to sediment quality targets. <u>This testing is addressed by the triad sampling events every five years as described above.</u></p>
11	BPA, Monitoring and Schedule Pgs. 13 and 14	Language referencing additional TMDL re-considerations should be included	<p>As recognized in the 2005 Toxics TMDL and the BPA for the Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxics Pollutants TMDLs (Harbor Toxics TMDLs), it may be necessary to make adjustments to the TMDL to be responsive to new State policies including, but not limited to, SQO Part II and the toxicity policy. Additionally, BC stakeholders may conduct additional special studies, such as further investigation of the role of metals in toxicity in bed sediment, and the Responsible Parties to the Harbor Toxics TMDLs are currently conducting studies which may provide findings applicable to the BC Toxics TMDL. A number of these efforts are expected to be completed within the next few years and this TMDL would benefit from the guidance that these studies and State policies will provide. As such, the following revisions to the Monitoring section are requested to incorporate a TMDL reopener prior to the final compliance date to reconsider the TMDL based on the findings of relevant State policies and scientific studies:</p> <p>In place of striking out the following sentence in its entirety:</p> <p><del>The Regional Board will re-consider the TMDL in the sixth year after the effective date in light of the findings of these studies;</del></p> <p>modify the sentence as follows:</p>

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
 Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment		
			<p>The Regional Board will re-consider the TMDL <u>after the adoption of the Phase II SQOs and in the sixth year after the effective date in light of the findings of these studies</u> <del>in the sixth year after the effective date in light of the findings of these studies</del> <u>five years after the effective date of this amendment in light of the findings of these or other relevant studies and additional newly adopted State policies.</u></p> <p>In addition, the following revisions to the Implementation Schedule (Table 7-14.2) are requested to incorporate a TMDL reopener prior to the final compliance date to reconsider the TMDL based on the findings of relevant State policies and scientific studies:</p> <table border="1" data-bbox="898 574 1913 776"> <tr> <td data-bbox="898 574 1409 776"> <u>January 11, 2012 January 11, 2018 and after adoption of the Phase II SQOs</u> </td> <td data-bbox="1409 574 1913 776">                     The Regional Board shall reconsider this TMDL to re-evaluate the <del>waste load allocations and the implementation schedule</del> <u>targets, WLAs, LAs, and implementation schedule based on new policies, data, or special studies.</u> </td> </tr> </table>	<u>January 11, 2012 January 11, 2018 and after adoption of the Phase II SQOs</u>	The Regional Board shall reconsider this TMDL to re-evaluate the <del>waste load allocations and the implementation schedule</del> <u>targets, WLAs, LAs, and implementation schedule based on new policies, data, or special studies.</u>
<u>January 11, 2012 January 11, 2018 and after adoption of the Phase II SQOs</u>	The Regional Board shall reconsider this TMDL to re-evaluate the <del>waste load allocations and the implementation schedule</del> <u>targets, WLAs, LAs, and implementation schedule based on new policies, data, or special studies.</u>				
12	BPA Schedule Pg. 15	Include reference to Coordinated Integrated Monitoring Program	<p>As the MS4 Permittees have joined together to develop a Coordinated Integrated Monitoring Program, please add the following language to the requirement to update the coordinated monitoring plan (CMP) by June 11, 2015 to allow for monitoring updates to be incorporated directly into the CIMP rather than a separate CMP.</p> <p><u>Revise the coordinated monitoring plan or the MS4 Permit required Integrated Monitoring Program or Coordinated Integrated Monitoring Program in compliance with the revised TMDL.</u></p>		
13	BPA Schedule Pgs. 15-18	Additional compliance language should be included for consistency	<p>The following comments relate to the compliance language for the direct effects interim dates of January 11, 2013, 2016, and 2017. The compliance demonstration methods should include all of the compliance related language on page 9 for consistency. Additionally a mechanism allowing the results of a TIE analysis or Stressor ID Study to demonstrate compliance for an individual constituent should be included. The 2008 TIE Study found that the historical organics were not contributing to toxicity and related targets for direct effects have been removed. If in the future it is determined that an individual constituent is not causing or contributing to toxicity at levels above the TMDL target, this additional compliance method provides the only mechanism to demonstrate compliance. The concern is that an individual pollutant could be found to not be causing toxicity, but toxicity is occurring due to a different constituent with a separately enforceable permit limit. Without this mechanism, the Permittees would be subject to enforcement for exceedances of multiple constituents when one is not causing toxicity. As such, the following revisions to the compliance demonstration approaches are requested for the January 11, 2013, 2016, and 2017 interim compliance milestones:</p>		

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
 Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
			<p>Compliance with the metals <u>WLA TMDLs</u> may be demonstrated via any one of <del>three different</del> <u>the following</u> means:</p> <ol style="list-style-type: none"> <li>1. Demonstrate that the sediment quality condition of Unimpacted or Likely Unimpacted via the interpretation and integration of multiple lines of evidence as defined in the SQOs, is met; or</li> <li>2. Sediment numeric targets are met in bed sediments; or</li> <li>3. <u>Results of a Toxicity Identification Evaluation or Phase I Stressor ID study determine that copper, lead, cadmium, silver and/or zinc are not causing toxicity; or</u></li> <li>4. <u>If permittees provide a quantitative demonstration as part of a watershed management program plan that control measures and BMPs will achieve the interim milestones consistent with the schedule, then compliance may be demonstrated by implementation of those control measures and BMPs, subject to Executive Officer approval; or</u></li> </ol> <p><b>The following changes are only for the 2013 Interim Milestone</b></p> <ol style="list-style-type: none"> <li>5. <del>Final Interim</del> allocations in the discharge are met, as described below:        The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 25% of the total drainage area served by the MS4 is effectively meeting the waste load allocations for sediment.</li> </ol> <p>Alternatively, permittees shall attain a 25% reduction in the difference between the <del>current</del> <u>baseline</u> loadings and WLAs, as measured at the relevant existing MS4 permit monitoring location and/or at relevant MS4 monitoring stations identified in an approved coordinated monitoring plan.</p> <p><b>The following changes are only for the 2016 Interim Milestone</b></p> <ol style="list-style-type: none"> <li>5. <del>Final Interim</del> allocations in the discharge are met, as described below:        The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 50% of the total drainage area served by the MS4 is effectively meeting the waste load allocations for sediment.</li> </ol> <p>Alternatively, permittees shall attain a 50% reduction in the difference between the <del>current</del> <u>baseline</u> loadings and WLAs, as measured at the relevant existing MS4 permit monitoring location and/or at relevant MS4 monitoring stations identified in an approved coordinated monitoring plan.</p>

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
 Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
			<p><b>The following changes are only for the 2017 Interim Milestone</b></p> <p>5. <del>Final</del> <u>Interim</u> allocations in the discharge are met, as described below:                      The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 75% of the total drainage area served by the MS4 is effectively meeting the waste load allocations for sediment.</p> <p>Alternatively, permittees shall attain a 75% reduction in the difference between the <del>current</del> <u>baseline</u> loadings and WLAs, as measured at the relevant existing MS4 permit monitoring location and/or at relevant MS4 monitoring stations identified in an approved coordinated monitoring plan.</p>
14	BPA Schedule Pgs. 16-18	Additional compliance language should be included for consistency	<p>The following comments relate to the compliance language for the indirect effects interim dates of January 11, 2013, 2016, and 2017. The compliance demonstration methods should include all of the compliance related language on page 9 for consistency. As such, the following revisions to the compliance demonstration approaches are requested for the January 11, 2013, 2016, and 2017 interim compliance milestones:</p> <p>Compliance with sediment WLAs for Chlordane, total DDT, and total PCBs may be demonstrated via any one of <del>three different</del> <u>the following</u> means:</p> <ol style="list-style-type: none"> <li>1. Sediment numeric targets are met in bed sediments; <u>or</u></li> <li>2. Fish tissue targets are met in species resident to Ballona Creek Estuary; <u>or</u></li> <li>3. Demonstrate that the sediment quality condition protective of fish tissue is achieved per the Statewide Enclosed Bays and Estuaries Plan, as amended to address contaminants in resident finfish and wildlife; <u>or</u></li> <li>4. <u>If permittees provide a quantitative demonstration as part of a watershed management program plan that control measures and BMPs will achieve the interim milestones consistent with the schedule, then compliance may be demonstrated by implementation of those control measures and BMPs, subject to Executive Officer approval; or</u></li> </ol> <p><b>The following changes are only for the 2013 Interim Milestone</b></p> <p>5. <del>Final</del> <u>Interim</u> allocations in the discharge are met, as described below:                      The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 25% of the total drainage area served by the MS4 is effectively meeting the waste load allocations for sediment.</p>

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
			<p>Alternatively, permittees shall attain a 25% reduction in the difference between the <del>current</del> <u>baseline</u> loadings and WLAs, as measured at the relevant existing MS4 permit monitoring location and/or at relevant MS4 monitoring stations identified in an approved coordinated monitoring plan.</p> <p><b>The following changes are only for the 2016 Interim Milestone</b></p> <p>5. <del>Final-Interim</del> allocations in the discharge are met, as described below: The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 50% of the total drainage area served by the MS4 is effectively meeting the waste load allocations for sediment.</p> <p>Alternatively, permittees shall attain a 50% reduction in the difference between the <del>current</del> <u>baseline</u> loadings and WLAs, as measured at the relevant existing MS4 permit monitoring location and/or at relevant MS4 monitoring stations identified in an approved coordinated monitoring plan.</p> <p><b>The following changes are only for the 2017 Interim Milestone</b></p> <p>5. <del>Final-Interim</del> allocations in the discharge are met, as described below: The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 75% of the total drainage area served by the MS4 is effectively meeting the waste load allocations for sediment.</p> <p>Alternatively, permittees shall attain a 75% reduction in the difference between the <del>current</del> <u>baseline</u> loadings and WLAs, as measured at the relevant existing MS4 permit monitoring location and/or at relevant MS4 monitoring stations identified in an approved coordinated monitoring plan.</p>
15	BPA Schedule Pgs. 18-19	Additional compliance language should be included for consistency	The compliance demonstration methods for final WLAs for direct and indirect effects should include all of the compliance related language on page 9 for consistency. Additionally a mechanism allowing the results of a TIE analysis or Stressor ID Study to demonstrate compliance for an individual constituent should be included. The 2008 TIE Study found that the historical organics were not contributing to toxicity and related targets for direct effects have been removed. If in the future it is determined that an individual constituent is not causing or contributing to toxicity at levels above the TMDL target, this additional compliance method provides the only mechanism to demonstrate compliance. The concern is that an individual pollutant could be found to not be causing toxicity, but toxicity is occurring due to a different constituent with a separately enforceable permit limit. Without this mechanism the Permittees would be subject to enforcement for exceedances of multiple constituents when one is not

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
 Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
			<p>causing toxicity. As such, the following revisions to the compliance demonstration approaches are requested for the January 11, 2021 final compliance milestones:</p> <p>Compliance with the metals <u>WLA TMDLs</u> may be demonstrated via any one of <del>three different</del> <u>the following</u> means:</p> <ol style="list-style-type: none"> <li>1. Demonstrate that the sediment quality condition of Unimpacted or Likely Unimpacted via the interpretation and integration of multiple lines of evidence as defined in the SQOs, is met; or</li> <li>2. Sediment numeric targets are met in bed sediments; or</li> <li>3. <u>Results of a Toxicity Identification Evaluation or Phase I Stressor ID study determine that copper, lead, cadmium, silver and/or zinc are not causing toxicity; or</u></li> <li>4. <u>If permittees provide a quantitative demonstration as part of a watershed management program plan that control measures and BMPs will achieve the interim milestones consistent with the schedule, then compliance may be demonstrated by implementation of those control measures and BMPs, subject to Executive Officer approval; or</u></li> <li>5. Final allocations in the discharge are met, as described below:                      The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 100% of the total drainage area served by the MS4 is effectively meeting the waste load allocations for sediment.</li> </ol> <p>Alternatively, permittees shall attain a 100% reduction in the difference between the <del>current</del> <u>baseline</u> loadings and WLAs, as measured at the relevant existing MS4 permit monitoring location and/or at relevant MS4 monitoring stations identified in an approved coordinated monitoring plan.</p> <p>Compliance with sediment WLAs for Chlordane, total DDT, and total PCBs may be demonstrated via any one of <del>three different</del> <u>the following</u> means:</p> <ol style="list-style-type: none"> <li>1. Sediment numeric targets are met in bed sediments; <u>or</u></li> <li>2. Fish tissue targets are met in species resident to Ballona Creek Estuary; <u>or</u></li> <li>3. Demonstrate that the sediment quality condition protective of fish tissue is achieved per the Statewide Enclosed Bays and Estuaries Plan, as amended to address contaminants in resident finfish and wildlife; <u>or</u></li> <li>4. <u>If permittees provide a quantitative demonstration as part of a watershed management program plan that control measures and BMPs will achieve the final milestones consistent with the schedule, then compliance may be demonstrated by implementation</u></li> </ol>

**Attachment 1: Ballona Creek Estuary Toxic Pollutants TMDL Revisions  
Technical Comment Matrix**

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment																											
			<p><u>of those control measures and BMPs, subject to Executive Officer approval; or</u></p> <p>5. Final allocations in the discharge are met, as described below:</p> <p>The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 100% of the total drainage area served by the MS4 is effectively meeting the waste load allocations for sediment.</p> <p>Alternatively, permittees shall attain a 100% reduction in the difference between the <u>current baseline</u> loadings and WLAs, as measured at the relevant existing MS4 permit monitoring location and/or at relevant MS4 monitoring stations identified in an approved coordinated monitoring plan.</p>																											
16	BPA Schedule Pgs. 15-19	Revise compliance schedule based upon drastically reduced total PCBs WLA	<p>Notwithstanding that the indirect effects targets for total PCBs should be removed, the following comments relate to the compliance language for the indirect effects interim dates of January 11, 2013, 2016, and 2017 and the final date of January 11, 2021. Given that the total PCBs WLA for MS4 Permittees went from 152 g/yr to 21.40 g/yr, which is an 86% reduction in the WLA, additional BMPs will need to be implemented that had not been accounted for during the development of the Toxics TMDL Implementation Plan developed by the Cities of Los Angeles, Beverly Hills, Culver City, Inglewood, Santa Monica, West Hollywood, and Caltrans. As a result, the implementation period to comply with the interim and final milestones for total PCBs should be extended. As such, it is requested that the BC Toxics TMDL Implementation Schedule be modified to include the interim and final compliance dates as shown in <b>Table 7</b>.</p> <p><b>Table 7. Requested Interim and Final Compliance Dates for Sediment WLAs for Chlordane, Total DDT, and Total PCBs</b></p> <table border="1" data-bbox="892 1063 1915 1320"> <thead> <tr> <th rowspan="2">Date</th> <th colspan="3">% of the Total Drainage Area Required to Meet WLAs or % Reduction in the Difference Between Baseline Loadings and WLAs</th> </tr> <tr> <th>Chlordane</th> <th>Total DDT</th> <th>Total PCBs</th> </tr> </thead> <tbody> <tr> <td>January 11, 2013</td> <td>25</td> <td>25</td> <td>--</td> </tr> <tr> <td>January 11, 2016</td> <td>50</td> <td>50</td> <td>--</td> </tr> <tr> <td>January 11, 2017</td> <td>75</td> <td>75</td> <td>25</td> </tr> <tr> <td>January 11, 2021</td> <td>100</td> <td>100</td> <td>50</td> </tr> <tr> <td>January 11, 2025</td> <td>100</td> <td>100</td> <td>100</td> </tr> </tbody> </table>	Date	% of the Total Drainage Area Required to Meet WLAs or % Reduction in the Difference Between Baseline Loadings and WLAs			Chlordane	Total DDT	Total PCBs	January 11, 2013	25	25	--	January 11, 2016	50	50	--	January 11, 2017	75	75	25	January 11, 2021	100	100	50	January 11, 2025	100	100	100
Date	% of the Total Drainage Area Required to Meet WLAs or % Reduction in the Difference Between Baseline Loadings and WLAs																													
	Chlordane	Total DDT	Total PCBs																											
January 11, 2013	25	25	--																											
January 11, 2016	50	50	--																											
January 11, 2017	75	75	25																											
January 11, 2021	100	100	50																											
January 11, 2025	100	100	100																											